

**LENS FOCUSING DEVICE, SYSTEM AND METHOD FOR USE WITH  
MULTIPLE LIGHT WAVELENGTHS**

**ABSTRACT OF THE DISCLOSURE**

A lens focusing system provides a lens in an optical path between a scene and  
5 a photosensitive detector to properly focus a first set of wavelengths of light. At least  
one representation of the scene is captured. The focal point is adjusted for a second  
different set of wavelengths of light. This focal adjustment may be made by moving  
the lens and/or the detector, offsetting the position of the lens from the first position  
by a predetermined amount. An alternative method would impose at least a second  
10 lens in the optical path, thereby providing focus for a different wavelength. This  
alternative system may include various combinations of fixed and movable lenses. At  
least one representation of the image is captured using this different set of  
wavelengths of light. The different sets of wavelengths of light can include infrared  
light, visible light, and subsets and combinations thereof. In at least one embodiment,  
15 one of the recorded representations is an infrared defect map that can be combined  
with visible light representations to form an improved image.